ABSTRACT

When a deformation of a tire which is rotating on a road surface is calculated by using measurement data of acceleration at a predetermined portion of the tire such as a tread portion, at first, time series data of acceleration is extracted from the measurement data of acceleration corresponding to at least one round of tire rotation. After this extraction, the extracted time series data of acceleration is subjected to a time integration of second order to obtain displacement data so as to calculate the deformation at the tread portion of the tire. When the deformation at the tread portion of the tire is calculated, a region on the tire circumference at the tire tread portion is divided into a region including a contact region in contact with the road surface, and a non-contact region including other than the former region. Then the measurement data of acceleration and the displacement data in the non-contact region are respectively approximated to calculate a first approximation curve and a second approximation curve. The first approximation curve and the second approximation curve are subtracted respectively from the measurement data of acceleration and the calculated displacement data, thereby extracting time series data of

acceleration due to tire deformation and obtaining the deformation at the tread portion.